CENTRAL INTELLIGENCE AGENCY

CLASSIFICATION SECRET/CONTROL - US OFFICIALS ONLY
SECURITY INFORMATION

50X1-HUM

INFORMATION REPORT

REPORT

CD NO.

COUNTRY USSR

DATE DISTR. 22 July 1952

SUBJECT Tubes Used in Soviet Mine Detectors

NO. OF PAGES 2

DATE OF INFO.

NO. OF ENCLS. (LISTED BELOW) 1

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PLACE ACQUIRED

SUPPLEMENT TO REPORT NO.

THIS IS UNEVALUATED INFORMATION

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1. The mark "UB-240" and mark "SO-243" electronic tubes are used in the Soviet mine detectors (1950) types "VIM-695", "VIM-625", "VIM-210", and "VIM-203". The mark "UB-240" tube is a battery-heated amplifying (Usilitelnaya s Batareinim Katodom) low power triode, miniature series, two-volt heater. It has an octal base (see sketch A on attachment).

2. The mark "SO-243" tube is a special amplifier with an oxide cathode (Spetsialnaya Usilitelnaya s Oksidnim Katodom). (See sketch B on attachment.)

3. The Soviets also have a tube mark "OSO-243".

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4. Both Soviet mine detectors "VIM-625" and "VIM-695" are in service. They both react only to mines which have metal parts. The principle of perception is that the buzz heard in the headphones changes pitch when the search frame approaches metal. The search frame has a self-inducting coil and a valve oscillator. The mine detectors "VIM-625" and "VIM-695" can detect a metal plate of 100 mm by 100 mm and one mm thick within a distance of 30 to 35 cm. from its search frame. In water the sensibility declines and at a depth of one meter the search frame does not react at all to the proximity of metal.

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5. There is a stethoscope mine detector (1949) in the Soviet Army which is used to locate enemy mines in buildings, walls, etc. An illustration showing this detector in operation has appeared in a DOSARM publication.

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5. Electrical mine detectors (Elektricheskiya minoiskateli) react only on mines containing metal parts. Six locators of this type are described below:

Mark*	Model	Weight (kg)	Size of frame	No. of radio lamps	Battery voltage	Tension of anode battery (volt/amp)	Duration of battery (hrs.)
IM-210	1940	6.95	450 x 250 mm	2	1.2	60/8	24
IM-203	1941	6.3	round form radius 380 mm	2	2.8	60/8	5
IM-203	1942	6.6	round form radius 380 mm	2	4.2	60/8	30
IM-203	1942	6.6	295 x 345 mm	2	4.2	60/8	30
IM-695	1942	6.0	round form radius 380 mm	1	2.8	60/5	10
IM-625	1942	6.0	round form radius 380 mm	1	2.8	60/2.5	10

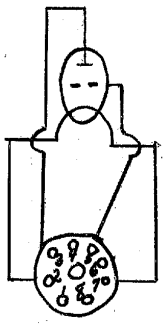
* IM- Iskatel min - searcher of mines

All these mine locators, when working, create a certain sound heard through the headphones. As soon as the frame of the mine locator gets near a piece of metal, to a distance of 45 cm. or nearer, the tone of the sound changes and the sound continues to change in getting nearer the metal.

Attachment: Sketch of the mark "UB-240" and "SO-243" tubes.

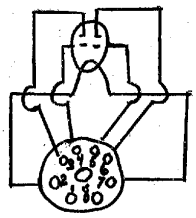
Attachment

Sketch A - Mark "UB-240" Tube



2 & 7 Heater pins
3 Anode pin
5 Grid pin

Sketch B - Mark "SO-243" Tube



2 & 7 Heater pins